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## Two new species of Paederinae from the Greek island Samos (Coleoptera: Staphylinidae)

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**Abstract:** *Sunius geiseri* nov.sp. and *Leptobium samium* nov.sp., the first endemic representatives of Staphylinidae (exclusive of the Pselaphinae) from the Egean island Samos (Greece), are described. The habitus and the male sexual characters are illustrated. The distributions of the new species, as well as those of seven geographically close *Sunius* and *Leptobium* species are mapped.

**Key words:** Coleoptera, Staphylinidae, Paederinae, *Sunius*, *Leptobium*, Greece, Samos, taxonomy, new species, endemism.

### Introduction

The Egean island Samos is separated from the Turkish mainland by the Mycale Strait, which is little more than 1.5 km wide. A synopsis of the staphylinid fauna of this island has never been attempted. The currently available information is confined to taxonomic works treating taxa of various levels on a broader geographic scale, e. g., *Stenus* LATREILLE 1797 (PUTHZ 2008), *Medon* STEPHENS 1833 (ASSING 2004a, 2005b), *Leptobium* CASEY 1905 (ASSING 2005a), *Othius* STEPHENS 1829 (ASSING 2005d), *Habrocerus* ERICHSON 1839 (ASSING 2008a), *Leptusa* KRAATZ 1856 (ASSING 2004b, 2007), *Myrmecopora* SAULCY 1865 (ASSING 1997), *Pseudosemiris* MACHULKA 1935 (ASSING 2004c), as well as to articles dealing with the fauna of Turkey (ASSING 2004d, in press b) and the Greek island Lesbos (ASSING 2005c).

Except for two species of Pselaphinae, *Tychobythinus brachati* BESUCHET 2008 and *Namunia cavernicola* BESUCHET 1978, no staphylinid island endemics have been described from Samos. *Leptusa samia* ASSING 2004 was originally believed to be endemic to this island (ASSING 2004b), but later also recorded from western Turkey (ASSING 2007). However, according to MEYBOHM (pers. comm.), Samos hosts approximately ten undescribed endemic species of Scydmaeninae, and according to Brachat (pers. comm.), two additional undescribed endemic species of Pselaphinae are known from the island.

The paederine genera *Sunius* STEPHENS 1829 and *Leptobium* CASEY 1905 were revised only recently. According to ASSING (2008b, 2008c), the former is represented in the Western Palaearctic region and Middle Asia by 97 species and two subspecies. More than half of the species belong to the *S. seminiger* group; all of them have more or less local distributions. *Sunius* species were previously unknown from Samos. The Palaearc-

tic genus *Leptobium* previously included 62 species and three subspecies (ASSING 2005a, in press a). Only one species, *L. gracile* (GRAVENHORST 1802), had been recorded from Samos.

One specimen of *Sunius* and two specimens of *Leptobium* were found among staphylinid material collected in Samos in 2003 by Volker Brachat (Geretsried) and Heinrich Meybohm (Großhansdorf). However, since all these specimens were females, their specific identity remained doubtful until, very recently, Michael Geiser (Basel) presented me with four specimens of Staphylinidae, which he had collected in Samos in spring 2008. Surprisingly and fortunately, this small sample included one male each of both the *Sunius* and the *Leptobium* species of which previously only females had become available. An examination of the two males revealed that both species were undescribed.

### Material and methods

The material referred to in this study is deposited in the author's private collection.

The morphological studies were carried out using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena). For the photographs a digital camera (Nikon Coolpix 995) was used.

Head length was measured from the anterior margin of the frons to the posterior margin of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra.

The following abbreviations are used for the measurements, which are given in mm:

HL: head length; HW: head width; PW: maximal width of pronotum; PL: length of pronotum along median line; EL: length of elytra; TiL: length of metatibia; TaL: length of metatarsus; AL: length of median lobe of aedeagus; TL: total length from apex of mandibles to posterior margin of tergite VIII.

The maps were generated using the online generic mapping tool (GMT) of the Geomar website at [www.aquarius.ifm-geomar.de/omc](http://www.aquarius.ifm-geomar.de/omc).

### Descriptions

#### *Sunius geiseri* nov.sp. (Figs 1-5, Map 1)

**Type material:** Holotype ♂: Griechenland, Samos, Oros Kerkis, Agios Ilias, 37°43.2N, 26°38.0'E, M. Geiser leg. 28.III.2008 / Gebirge, ca. 1150 m, unter Stein / Holotypus ♂ *Sunius geiseri* sp.n. det. V. Assing 2008 (cAss). Paratype ♀: GR Samos, 430 m, 6 km westl. Pirgos, N37°43', E26°45' / 24.4.2003, leg. Brachat & Meybohm, Bachtal, Kiefernwald (cAss).

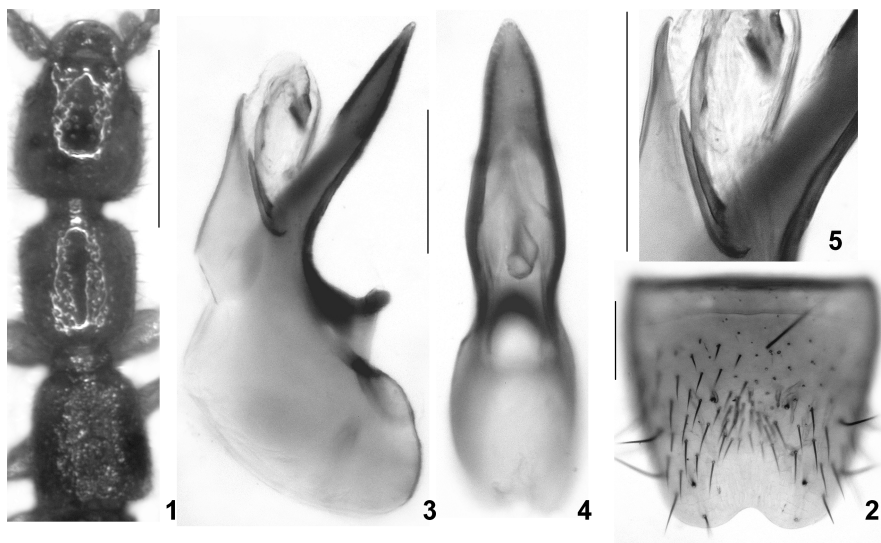
**Description:** Small species, body length 2.6-2.9 mm. Forebody as in Fig. 1. Coloration: forebody uniformly dark-yellowish to reddish; abdomen brown to dark brown, with the apex more or less distinctly paler; legs and antennae yellowish.

Head 1.05-1.10 times as long as wide, weakly dilated posteriad; punctuation relatively fine and sparse; microsculpture absent; eyes small, approximately 1/4 the length of post-ocular region in dorsal view (Fig. 1).

Pronotum approximately 0.9 times as wide as head and 1.15 times as long as wide; punctuation similar to that of head, but denser (Fig. 1); microsculpture absent.

Elytra approximately as wide, and at suture approximately 0.7 times as long as pronotum; punctuation much finer than that of pronotum, dense, and ill-defined. Hind wings reduced.

Abdomen approximately 1.1 times as wide as elytra, widest at segment VI-VII; punctuation fine and moderately dense; interstices with shallow microsculpture; posterior margin of tergite VII without palisade fringe.



**Figs 1-5:** *Sunius geiseri* nov.sp.: (1) forebody; (2) male sternite VIII; (3-4) aedeagus in lateral and in ventral view; (5) internal structures of aedeagus in lateral view. Scale bars: 1: 0.5 mm; 2-5: 0.1 mm.

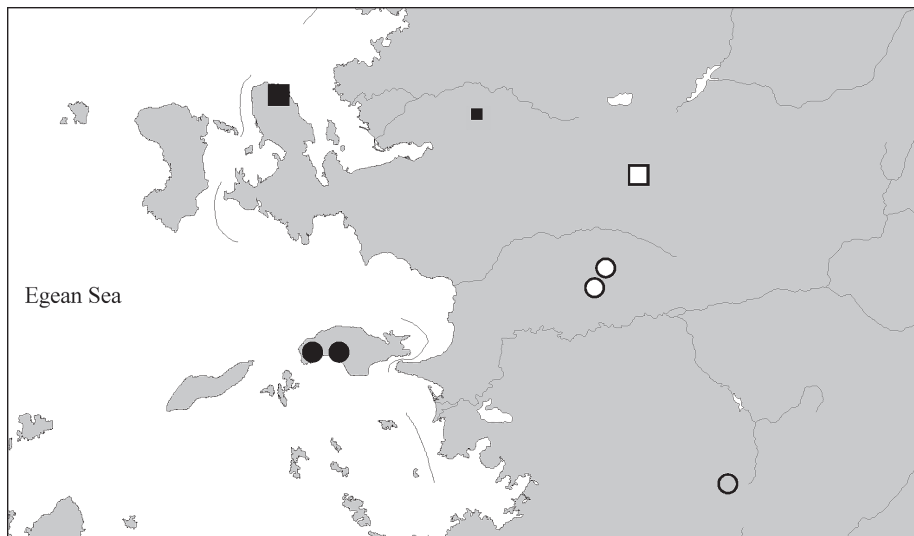
♂: sternite VII with weakly concave posterior margin, pubescence unmodified; sternite VIII posteriorly with rather shallow, broadly V-shaped posterior incision, in the middle with patch of dense setae (Fig. 2); aedeagus shaped as in Figs 3-4; ventral process slender in ventral view, straight and stout in lateral view; internal sac with two elongate and moderately sclerotised spines (Fig. 5).

**E t y m o l o g y :** The species is dedicated to Michael Geiser, Basel, who discovered the holotype.

**C o m p a r a t i v e   n o t e s :** Using the key in ASSING (2008), the new species would key out at couplet 43 together with *S. menalonicus* ASSING 2008 (Menalon Oros, Pelopónnisos), from which it is readily distinguished by the completely different shape of the ventral process of the aedeagus, by the presence of spines in the internal sac, and by the smaller posterior excision of the male sternite VIII. For illustrations of *S. menalonicus* see ASSING (2008b).

**D i s t r i b u t i o n   a n d   b i o n o m i c s :** As can be inferred from the restricted distributions of other species of the *S. seminiger* group, as well as from the adaptive

reductions of the eyes, wings, and palisade fringe (tergite VII), *S. geiseri* is probably endemic to Samos island (Greece: Egean Islands) (Map 1). The type specimens were found under a stone and sifted from pine litter at altitudes of 430 and 1150 m.



Map 1: Distributions of *Sunius geiseri* nov.sp. (black circles) and the geographically closest representatives of the *S. seminiger* group - *S. pinniger* ASSING (large black square), *S. plasoni* (EPPELSHEIM) (small black square), *S. bozdagensis* ASSING (white square), *S. fortispinosus* ASSING (white circles), *S. sexspinosus* ASSING (grey circle) - in the Egean islands and western Anatolia.

### ***Leptobium samium* nov.sp. (Figs 6-10, Map 2)**

**Type material:** Holotype ♂: Griechenland, Samos, Oros Kerkis, Agios Ilias, 37°43.2N, 26°38.0'E, M. Geiser leg. 26.III.2008 / Gebirge, ca. 1150 m, unter Stein / Holotypus ♂ *Leptobium samium* sp.n. det. V. Assing 2008 (cAss). Paratypes: 2 ♀ ♀: GR - Samos, ca. 6 km westl. Pirgos, N37°43'24", E26°45'52", ca. 430 m, 24.IV.2003, leg. Meybohm/Brachat (cAss).

**Description:** Measurements (in mm) and ratios (range; n=3): HL: 0.91-1.01; HW: 0.82-0.94; PW: 0.84-0.94; PL: 0.99-1.11; EL: 0.66-0.76; TiL: 0.74-0.87; TaL: 0.64-0.72; AL: 1.32; TL: 6.4-7.4; HL/HW: 1.07-1.10; PW/HW: 1.00-1.05; PL/PW: 1.17-1.19; EL/PL: 0.65-0.69; TiL/TaL: 1.16-1.24.

**Habitus** as in Fig. 6. **Coloration:** head and abdominal segments III-VI blackish; pronotum, elytra, and abdominal segments VII-X reddish; legs and antennae reddish-yellow.

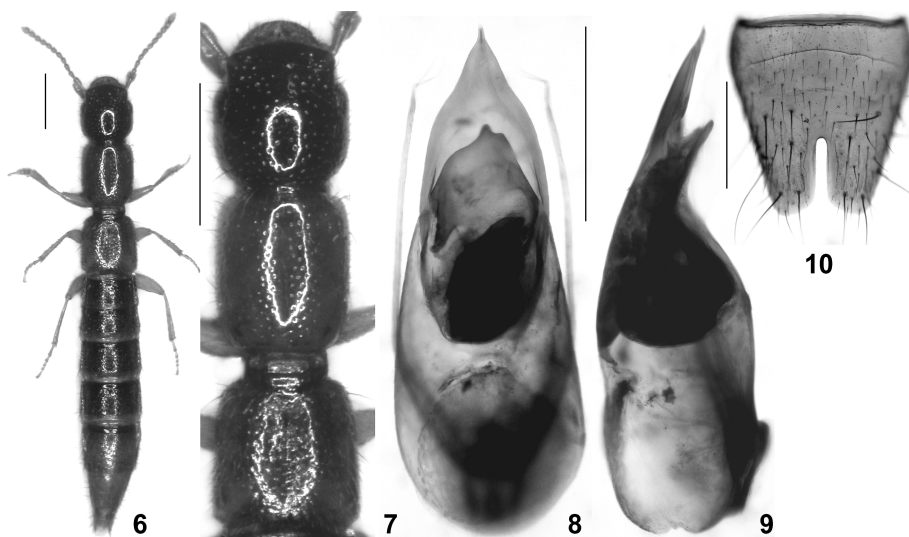
Head moderately oblong (see ratio HL/HW); eyes of moderate size, approximately 0.65 times as long as postocular region in dorsal view; punctuation in dorsal median area relatively fine and rather sparse (Fig. 7), interstices 2-5 times as wide as diameter of punctures; antennomeres II and III of subequal length.

Pronotum as wide as head or slightly wider (see ratio PW/HW); punctuation slightly denser and on average slightly finer than that of head (Fig. 7). Elytra much shorter than

pronotum (see ratio EL/PL); punctation more ill-defined than that of pronotum. Hind wings reduced.

Abdomen at segment VI slightly wider than elytra; punctation of tergites III-VI distinctly coarser than that of tergites VII-VIII; microsculpture shallow and transverse; posterior margin of tergite VII without palisade fringe.

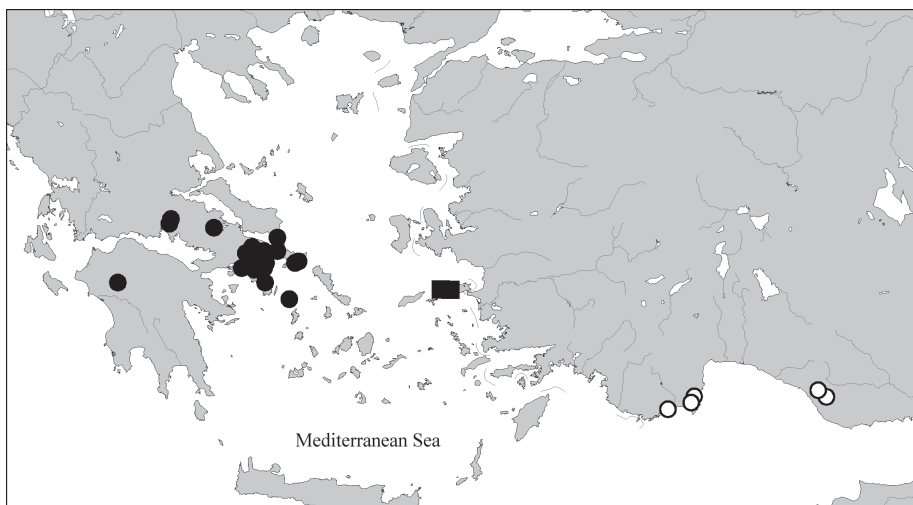
♂: sternite VI not distinctly modified; posterior incision of sternite VIII distinctly less than half the length of sternite (Fig. 10); dorsal plate of aedeagus with weakly pronounced and apically fused pair of dorsal carinae and with apically pointed, asymmetrical ventral process (Figs 8-9).



**Figs 6-10:** *Leptobium samium* nov.sp.: (6) habitus; (7) forebody; (8-9) aedeagus in ventral and in lateral view; (10) male sternite VIII. Scale bars: 6-7: 1.0 mm; 8-10: 0.5 mm.

**E t y m o l o g y :** The name (Latin, adjective: Samian) refers to the fact that the species is probably endemic to Samos.

**C o m p a r a t i v e   n o t e s :** The geographically closest congeners with a similar coloration pattern are *Leptobium melanocephalum* (REICHE & SAULCY 1856) from mainland Greece (Map 2) and *L. mutabile* ASSING 2005 from southwestern Anatolia (Map 2). The new species is distinguished from the former by the, on average, slightly smaller body, as well as finer and sparser punctation of the head, slightly larger eyes, and particularly by the differently shaped dorsal plate and ventral process of the aedeagus. It is separated from *L. mutabile* by larger average size, particularly by a broader head (almost no overlap), a longer pronotum (almost no overlap), longer elytra (almost no overlap), as well as by a distinctly larger aedeagus with a differently shaped ventral process and dorsal plate. For measurements and illustrations of *L. melanocephalum* and *L. mutabile* see ASSING (2005). *Leptobium samium* differs from other geographically close congeners of similarly small size by the coloration pattern alone.



**Map 2:** Distributions of *Leptobium melanocephalum* (REICHE & SAULCY) (black circles), *L. samium* nov.sp. (squares), and *L. mutabile* ASSING (white circles) in Greece and Turkey.

**Distribution:** The new species is known from two localities in the Egean island Samos, Greece (Map 2), where it is apparently endemic and where the type specimens were collected at altitudes of 430 and 1150 m.

### Acknowledgements

My thanks are due to Michael Geiser, Basel, for the generous gift of the two holotypes and to Benedikt Feldmann, Münster, who proof-read the manuscript.

### Zusammenfassung

*Sunius geiseri* nov.sp. und *Leptobium samium* nov.sp. werden von der ägäischen Insel Samos (Griechenland) beschrieben; unter den Staphylinidae, ausschließlich der Pselaphinae, sind sie die ersten endemischen Arten, die von dieser Insel bekannt werden. Der Habitus und die männlichen Geschlechtsmerkmale werden abgebildet. Die Verbreitung der neuen Arten sowie die von sieben weiteren *Sunius*- und *Leptobium*-Arten wird anhand von Karten illustriert.

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